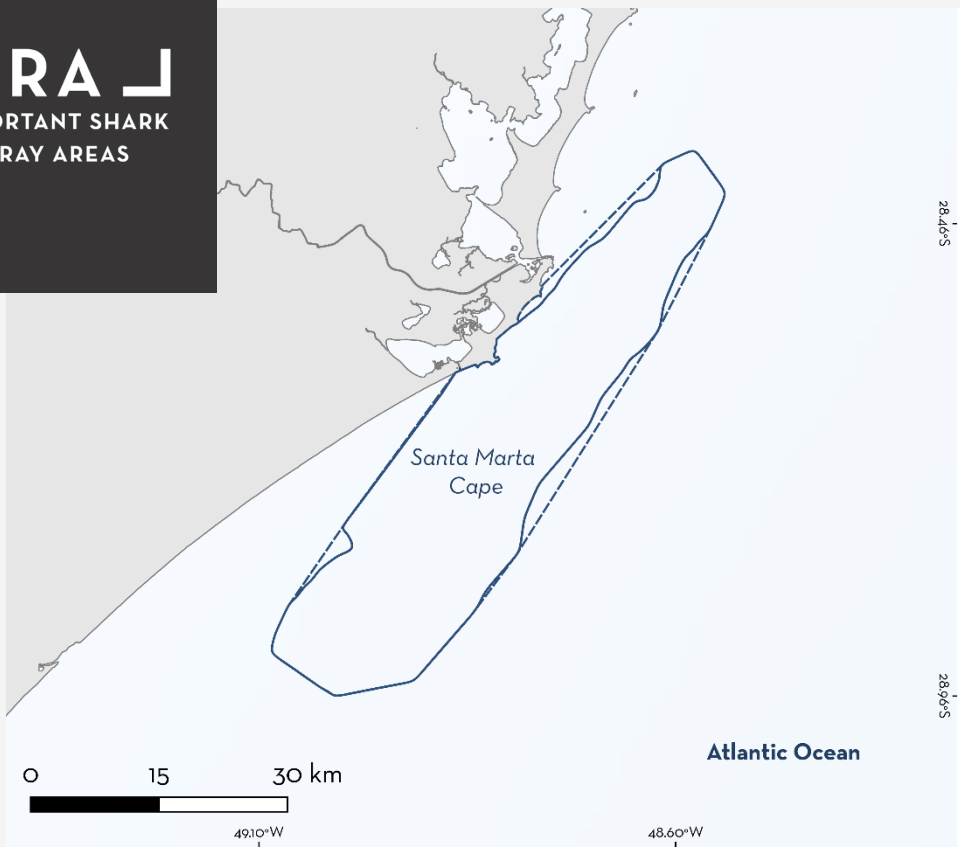
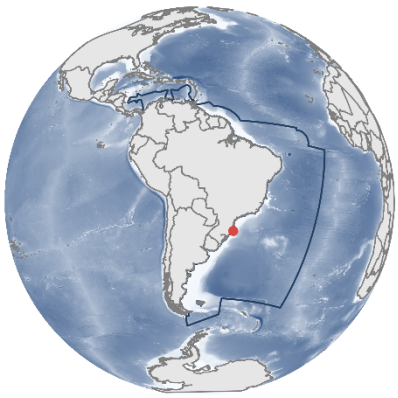
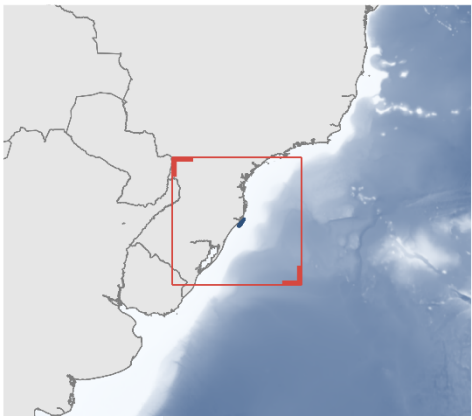
ISRA
IMPORTANT SHARK AND RAY AREAS







Blue lines indicate the area meeting the ISRA Criteria; dashed lines indicate the suggested buffer for use in the development of appropriate place-based conservation measures

SANTA MARTA CAPE ISRA

South American Atlantic Region

BRAZIL

20–60 metres

1,055.1 km²

SUMMARY

Santa Marta Cape is located in the Santa Catarina state of southern Brazil. This area is characterised by large expanses of fine sand and a gently sloping inner shelf which increases as it approaches the cape with incidence of moderate to high wave energy. Within this area there are: **threatened species** (e.g., Smallnose Fanskate *Sympterygia bonapartii*) and **range-restricted species** (e.g., Eyespot Skate *Atlantoraja cyclophora*).

CRITERIA

Criterion A – Vulnerability; Criterion B – Range Restricted

DESCRIPTION OF HABITAT

Santa Marta Cape is located in Santa Catarina state, southern Brazil. This area is characterised by a large expanse of fine sand, and a gently sloping inner shelf which increases as it approaches the cape with an incidence of moderate to high wave energy (De Oliveira et al. 2016). The most energetic swells are from the south and southeast quadrants generating strong currents towards the northeast and occurring mainly during the austral autumn and winter. In the spring and summer, waves from the east and northeast quadrants prevail but do not produce a significant current due to the perpendicular wave approach to the coast (De Oliveira et al. 2016).

This Important Shark and Ray Area is benthic and subsurface and is delineated from 20 to 60 m based on the bathymetry of the area.

ISRA CRITERIA

CRITERION A – VULNERABILITY

Two Qualifying Species considered threatened with extinction according to the IUCN Red List of Threatened Species regularly occur in the area. These are the Critically Endangered Bignose Fanskate (Pollom et al. 2020b) and the Endangered Eyespot Skate (Pollom et al. 2020a).

CRITERION B – RANGE RESTRICTED

This area holds the regular presence of the Eyespot Skate, Bignose Fanskate, and Smallnose Fanskate as resident range-restricted species. All species occur in the Patagonian Shelf and the South Brazil Shelf Large Marine Ecosystems.

Between 2022–2023, these species were regularly recorded by onboard observers on vessels from the commercial coastal pair trawl fleet operating along ~950 km of coastline including Santa Catarina and Rio Grande do Sul states (Monteiro DS, Cardoso LG, Fischer LG unpubl. data 2025). Of 324 sets monitored, 14 were within this area (33–55 m depth), in 2022 (June = 10) and 2023 (May = 3; November = 1) (DS Monteiro, LG Cardoso, LG Fischer unpubl. data 2025). Commercial pair trawl headrope and footrope lengths in south Brazil vary from 17.4–28.2 m and from 19.4–31.5 m, respectively. The mesh size ranges between 9–12 cm, measured from knot to knot (Queirolo et al. 2016). Data comprised the number of individuals and total kilograms per species in each pair trawl haul, and the total length (TL) was calculated based on the length-weight relationship using parameters for each species available on FishBase (Froese et al. 2013; Froese & Pauly 2024). All species were captured in higher numbers within this area compared to adjacent areas.

A total of 30 Eyespot Skate were captured in 36% (n = 5) of 14 hauls (outside this area it was captured in 23% out of 310). Individuals were captured in 2022 and 2023 (June and November) (DS Monteiro, LG Cardoso, LG Fischer unpubl. data 2025). The highest number of individuals per haul was 24 (average = 2.1 [average outside this area = 0.5]).

A total of 97 Bignose Fanskate were captured in 36% (n = 5) of 14 hauls (outside this area, it was captured in 16% [n = 49 hauls] out of 310). Individuals were captured in 2022 and 2023 (June and November) (DS Monteiro, LG Cardoso, LG Fischer unpubl. data 2025). The highest number of individuals per haul was 26 (average = 6.9 [average outside this area = 1.8]).

A total of 33 Smallnose Fanskate were captured in 36% (n = 5) of 14 hauls (outside this area, it was captured in 8.4% [n = 26 hauls]out of 310). Individuals were captured in 2022 and 2023 (June and

November) (DS Monteiro, LG Cardoso, LG Fischer unpubl. data 2025). The highest number of individuals per haul was 11 (average = 2.4 [average outside this area = 0.8]).

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QUALIFYING SPECIES

Scientific Name	Common Name	IUCN Red List Category	Global Depth Range (m)	ISRA Criteria/Sub-criteria Met								
				A	B	C1	C2	C3	C4	C5	D1	D2
RAYS												
Atlantoraja cyclophora	Eyespot Skate	EN	0–320	X	X							
Sympterygia acuta	Bignose Fanskate	CR	0–188	X	X							
Sympterygia bonapartii	Smallnose Fanskate	NT	0–500		X							

SUPPORTING SPECIES

Scientific Name	Common Name	IUCN Red List Category
SHARKS		
Sphyrna lewini	Scalloped Hammerhead	CR
Squatina guggenheim	Angular Angelshark	EN
RAYS		
Atlantoraja castelnaui	Spotback Skate	CR
Gymnura altavela	Spiny Butterfly Ray	EN
Pseudobatos horkelii	Brazilian Guitarfish	CR
Zapteryx brevirostris	Shortnose Guitarfish	EN

IUCN Red List of Threatened Species Categories are available by searching species names at www.iucnredlist.org Abbreviations refer to: CR, Critically Endangered; EN, Endangered; VU, Vulnerable; NT, Near Threatened; LC, Least Concern; DD, Data Deficient.

SUPPORTING INFORMATION

There are additional indications that Santa Marta Cape holds the regular presence of one shark and four ray species as range-restricted species.

A total of 91 Angular Angelshark were captured in 36% (n = 5) of 14 hauls (outside this area it was captured in 31.6%). Individuals were captured in June 2022 (DS Monteiro, LG Cardoso, LG Fischer unpubl. data 2025). The highest number of individuals per haul was 27, suggesting an aggregative behaviour (average = 6.5 [average outside this area = 6]).

A total of 58 Spotback Skate were captured in 29% (n = 4) of 14 hauls (outside this area it was captured in 13%). Individuals were captured in June 2022 (DS Monteiro, LG Cardoso, LG Fischer unpubl. data 2025). The highest number of individuals per haul was 19, suggesting an aggregative behaviour (average = 4.1 [average outside this area = 0.9]).

A total of 206 Brazilian Guitarfish were captured in 29% (n = 4) of 14 hauls (outside this area, it was captured in 33% [n = 102 hauls]). Individuals were captured in June 2022 (Monteiro DS, Cardoso LG, Fischer LG unpubl. data 2025). The highest number of individuals per haul was 79, suggesting an aggregative behaviour (average = 14.7 [average outside this area = 6.7]).

A total of 74 Shortnose Guitarfish were captured in 29% (n = 4) of 14 hauls (outside this area, it was captured in 10.7% [n = 33 hauls]). Individuals were captured in June 2022 (Monteiro DS, Cardoso LG, Fischer LG unpubl. data 2025). The highest number of individuals per haul was 32, suggesting an aggregative behaviour (average = 5.3 [average outside this area = 2.1]).

There are additional indications that Santa Marta Cape is an important reproductive area for one shark and one ray species.

The average of Scalloped Hammerhead neonates per trawl within this area was 1.4, while outside this area it was 0.1 (DS Monteiro, LG Cardoso, LG Fischer unpubl. data 2025).

A total of 20 Spiny Butterfly Rays were captured in 36% of 14 hauls (n = 5). All individuals were captured in June 2022. Size-at-birth for the species is 38–44 cm disc width (Last et al. 2016), indicating that based on estimated sizes, all captured animals were neonates or young-of-the-year (YOY). This represents 39.2% of the total neonates /YOY Spiny Butterfly Ray (<39 cm TL) captured in the broader area, and 31.3% of the total catch of the species (28.1–80.2 cm TL; total hauls = 324).

Further information is required to understand the importance of this area for these species.

REFERENCES

De Oliveira JF, Barboza EG, Benavente J. 2016. Nearshore dynamics and holocene evolution of the coastal barrier south of the Santa Marta Cape, southern Brazil. *Journal of Coastal Research* 75: 437–441. https://doi.org/10.2112/si75-088.1

Froese R, Pauly D. 2024. FishBase. World Wide Web electronic publication. www.fishbase.org, version (02/2024).

Froese R, Thorson JT, Reyes RB. 2013. A Bayesian approach for estimating length-weight relationships in fishes. *Journal of Applied Ichthyology* 30: 78–85. https://doi.org/10.1111/jai.12299

Last PR, White WT, de Carvalho MR, Séret B, Stehmann MFW, Naylor GJP. 2016. *Rays of the world.* Clayton South: CSIRO Publishing.

Pollom R, Barreto R, Charvet P, Chiaramonte GE, Cuevas JM, Faria V, Montealegre-Quijano S, Motta F, Paesch L. 2020a. *Atlantoraja cyclophora. The IUCN Red List of Threatened Species* 2020: e.T61398A3103491. https://dx.doi.org/10.2305/IUCN.UK.2020-3.RLTS.T61398A3103491.en

Pollom R, Barreto R, Charvet P, Chiaramonte GE, Cuevas JM, Herman K, Montealegre-Quijano S, Motta F, Paesch L. 2020b. Sympterygia acuta. The IUCN Red List of Threatened Species 2020: e.T44642A2998643. https://dx.doi.org/10.2305/IUCN.UK.2020-3.RLTS.T44642A2998643.en

Queirolo D, Wahrlich R, Molina R, Faccin JRM, Pezzuto PR. 2016. Industrial double rig trawl fisheries in the southeastern and southern Brazil: characterization of the fleet, nets and trawl simulation. *Latin American Journal of Aquatic Research* 44: 898–907. https://doi.org/10.3856/vol44-issue5-fulltext-3